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AREI UPDATES: Pesticide Safety Measures

Updates on Agricultural Resources and Environmental Indicators

Natural Resources and Environment Division
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Safety Measures Used In Applying Pesticides To Strawberries, Tomatoes, and Lettuce

- **Most surveyed growers applied pesticides whose labels prescribed the use of gloves and, except for lettuce growers, eye/face shields and respirators.**
- **Generally the majority of surveyed growers who applied such pesticides reported use of the prescribed safety measures, but use rates in some of the major producing States were higher than in others.**
- **Surveyed growers more frequently reported use of prescribed protective gloves than they did use of eye/face shields and respirators.**

In the 1992 Vegetable Chemical Use Survey, farm operators in major producing States indicated the chemicals applied and who did the application. When the operator or an employee (instead of a contracted applicator) applied some of the pesticides, the operator was asked if protective gloves, eye/face shields, and respirators were used when mixing and loading pesticides and if the same protective devices or an enclosed cab were used when applying pesticides. While the survey covered States accounting for 85 percent or more of lettuce, strawberry, and tomato production in 1992, the safety measure results in some States, because of few respondents, may or may not represent the State.

Lettuce: All surveyed growers in Arizona and California who applied pesticides themselves or had an employee do it reported

using the safety measures prescribed on the pesticide label. The pesticides applied differed, however, in their prescribed measures. Pesticides applied by all growers prescribed use of gloves; pesticides applied by 43 percent prescribed use of eye/face shields; pesticides applied by 29 percent prescribed the use of respirators.

Strawberries: Pesticides applied by surveyed growers in nine major producing States generally prescribed use of gloves, eye/face shields, and respirators. From 36 to 100 percent of the surveyed growers, depending on the State, reported using of one or more of the prescribed measures or the alternative enclosed cab. The highest proportion of the surveyed growers using the prescribed measures occurred in California and the lowest in North Carolina.

Tomatoes: Safety measures used by growers surveyed in eight major producing States varied by State and the pesticide applied. Pesticides applied by 80-100 percent of the growers prescribed use of gloves and eye/face shields; pesticides applied by 37-95 percent prescribed that respirators be worn. When a safety measure was prescribed, 20 to 100 percent of the surveyed growers reported using the measure, or the alternative enclosed cab. The highest proportions of surveyed growers using prescribed safety measures were in California and the lowest in Georgia and North Carolina.

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About AREI UPDATES

AREI UPDATES is a periodic series that supplements and updates information in *Agricultural Resources and Environmental Indicators (AREI)*, USDA, ERS, AH-705, Dec. 1994. UPDATES report recent data from surveys of farm operators and others knowledgeable about changing agricultural resource use and conditions, with only minimal interpretation or analysis. Please contact the individual listed at the end of the text for additional information about the data in this UPDATE. If you would like to be added to the mailing list or have other questions about AREI UPDATES or AREI, contact Richard Magleby, (202) 219-0436.

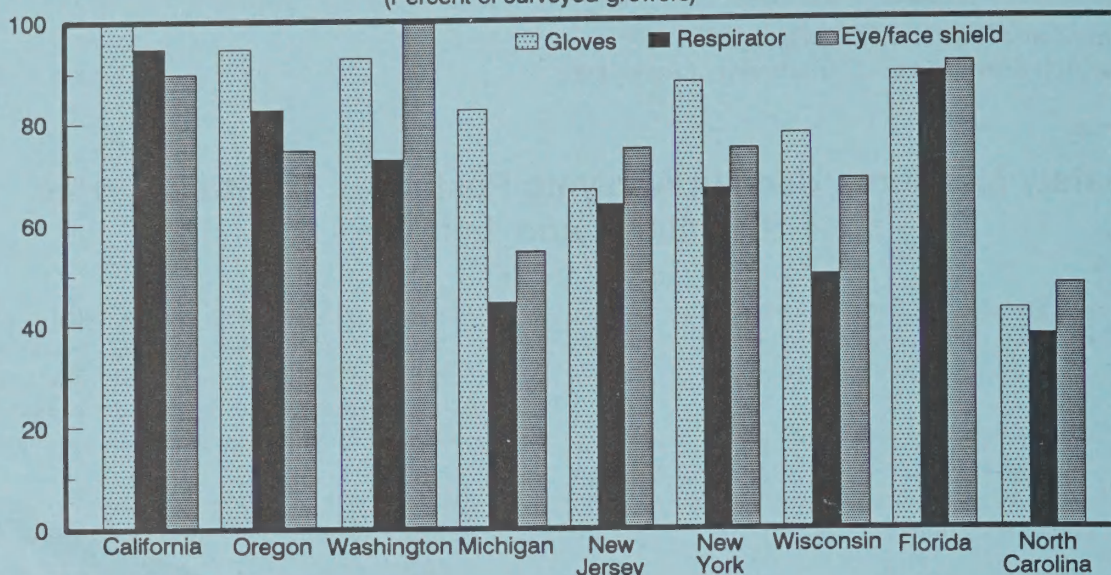
Range among major States in percent of surveyed growers using pesticide safety measures when prescribed

Crop	Gloves	Respirators	Eye/face shields
Lettuce	100	100	100
Strawberries	43-100	36-95	45-100
Tomatoes	40-94	25-100	20-92

Source: USDA, 1992 Vegetable Chemical Use Survey.

Strawberries: Precautionary practices used during application of pesticides, 1992

(Percent of surveyed growers)^{1/ 2/}



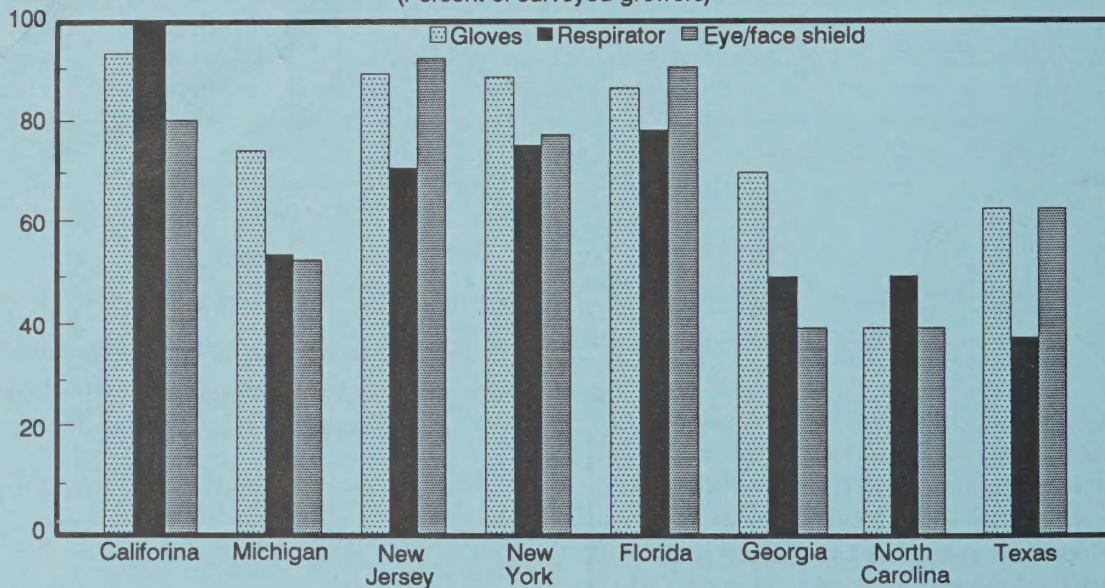
^{1/} Excludes growers who had all pesticides applied by custom applicators.

^{2/} Surveyed growers reporting use of the safety measure by themselves or employees as a percent of total surveyed growers applying pesticides whose labels prescribed the use of the measure.

Source: U.S. Department of Agriculture, Economic Research Service and National Agricultural Statistics Service, 1992 Vegetable Chemical Use Survey.

Tomatoes: Precautionary practices used during application of pesticides, 1992

(Percent of surveyed growers)^{1/ 2/}



^{1/} Excludes growers who had all pesticides applied by custom applicators.

^{2/} Surveyed growers reporting use of the safety measure by themselves or employees as a percent of total surveyed growers applying pesticides whose labels prescribed the use of the measure.

Source: U.S. Department of Agriculture, Economic Research Service and National Agricultural Statistics Service, 1992 Vegetable Chemical Use Survey.

Table 1—Use of protective gloves by surveyed growers or their employees applying pesticides to lettuce, strawberries, and tomatoes, 1992 ^{1/}

Crop and State	Glove use prescribed		Gloves used when prescribed for mixing & loading		Gloves (or enclosed cab) used when prescribed for application	
	Percent of growers	Percent of acres	Percent of growers ^{2/}	Percent of acres ^{3/}	Percent of growers ^{2/}	Percent of acres ^{3/}
Lettuce						
AZ and CA	100	100	100	100	100	100
Strawberries						
California	93	95	98	98	100	100
Florida	100	100	92	98	90	96
Michigan	98	94	87	79	83	81
N. Carolina	98	99	48	63	43	62
New Jersey	92	99	83	83	67	67
New York	98	99	92	93	88	88
Oregon	98	99	98	99	95	96
Washington	93	99	100	100	93	100
Wisconsin	100	100	78	82	78	81
Tomatoes						
California	84	99	94	99	94	99
Florida	100	100	86	100	86	97
Georgia	91	99	50	31	70	35
Michigan	100	100	82	97	74	54
N. Carolina	96	100	56	40	40	59
New Jersey	100	100	93	96	89	93
New York	93	99	81	98	88	97
Texas	80	87	75	99	63	79

For footnotes and source, see table 2.

Table 2—Use of face eye/face shields by surveyed growers applying pesticides to lettuce, strawberries, and tomatoes, 1992 ^{1/}

Crop and State	Eye/face shield use prescribed		Eye/face shield used when prescribed for mixing & loading		Eye/face shield (or enclosed cab) used when prescribed for application	
	Percent of growers	Percent of acres	Percent of growers ^{2/}	Percent of acres ^{3/}	Percent of growers ^{2/}	Percent of acres ^{3/}
Lettuce						
AZ and CA	43	44	100	100	100	100
Strawberries						
California	93	95	98	98	90	96
Florida	100	100	88	98	92	99
Michigan	96	93	61	59	55	64
N. Carolina	98	99	45	61	48	72
New Jersey	92	99	58	67	75	93
New York	98	99	67	62	75	76
Oregon	98	99	77	77	75	72
Washington	93	99	93	98	100	100
Wisconsin	98	99	50	68	64	68
Tomatoes						
California	84	99	88	99	81	99
Florida	100	100	86	100	90	100
Georgia	91	99	20	25	40	99
Michigan	100	100	50	66	53	27
N. Carolina	96	99	48	36	40	58
New Jersey	89	99	84	85	92	91
New York	93	99	58	81	77	96
Texas	80	87	44	77	63	78

^{1/}Excludes growers who had all pesticides applied by contracted applicators.

^{2/}Surveyed growers reporting use of the safety measure by themselves or employees as a percent of total surveyed growers applying pesticides whose labels prescribed the use of the measure.

^{3/}Crop acreage of surveyed growers reporting use of the safety measure as a percent of the total acreage in that crop of surveyed growers applying pesticides whose labels prescribed the use of the measure.

Source: U.S. Department of Agriculture, Economic Research Service and National Agricultural Statistics Service, 1992 Vegetable Chemical Use Survey.

Table 3—Use of respirators by surveyed growers applying pesticides to lettuce, strawberries, and tomatoes, 1992¹

Crop and State	Respirator use prescribed		Respirator used when prescribed for mixing & loading		Respirator (or enclosed cab) used when prescribed for application	
	Percent of growers	Percent of acres	Percent of growers ²	Percent of acres ³	Percent of growers ²	Percent of acres ³
Lettuce						
AZ and CA	29	3	100	100	100	100
Strawberries						
California	76	73	90	95	95	99
Florida	98	99	81	94	90	99
Michigan	83	88	43	48	45	44
N. Carolina	59	68	38	65	38	68
New Jersey	85	95	36	52	64	86
New York	79	90	58	54	67	71
Oregon	79	83	83	87	83	87
Washington	73	95	36	55	73	74
Wisconsin	58	69	42	48	50	49
Tomatoes						
California	37	62	100	100	100	100
Florida	95	99	71	89	78	92
Georgia	73	98	25	25	50	34
Michigan	74	96	36	25	54	35
N. Carolina	62	38	31	36	50	52
New Jersey	61	73	76	87	71	79
New York	57	92	50	82	75	97
Texas	65	80	54	53	38	32

¹Excludes growers who had all pesticides applied by contracted applicators.

²Surveyed growers reporting use of the safety measure by themselves or employees as a percent of total surveyed growers applying pesticides whose labels prescribed the use of the measure.

³Crop acreage of surveyed growers reporting use of the safety measure as a percent of the total acreage in that crop of surveyed growers applying pesticides whose labels prescribed the use of the measure.

Source: U.S. Department of Agriculture, Economic Research Service and National Agricultural Statistics Service, 1992 Vegetable Chemical Use Survey.

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